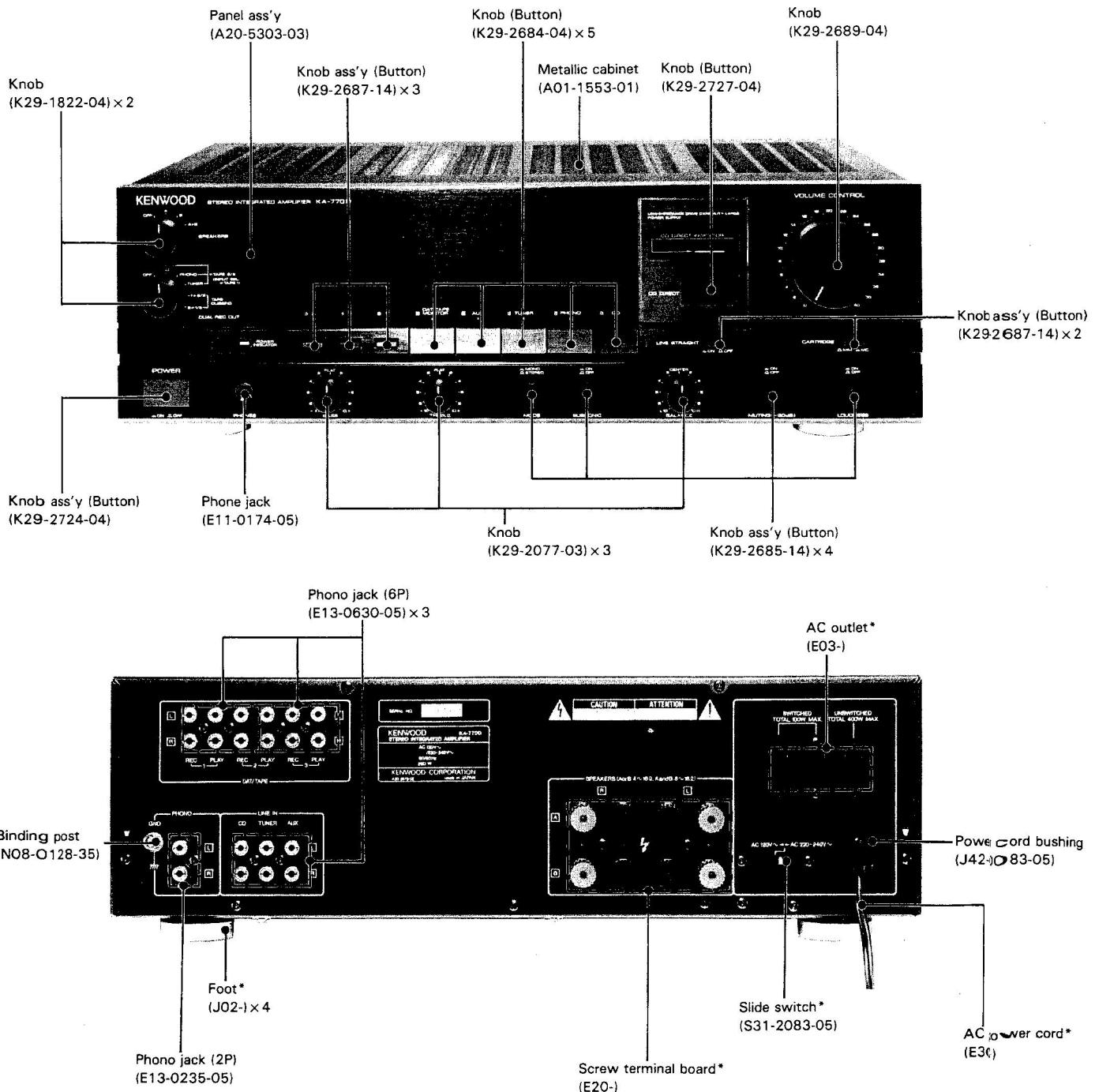


STEREO INTEGRATED AMPLIFIER
KA-770D
 SERVICE MANUAL

KENWOOD

©1987-7 PRINTED IN JAPAN
 B51-3275-00(T)2227



* Refer to parts list **①** page 26.

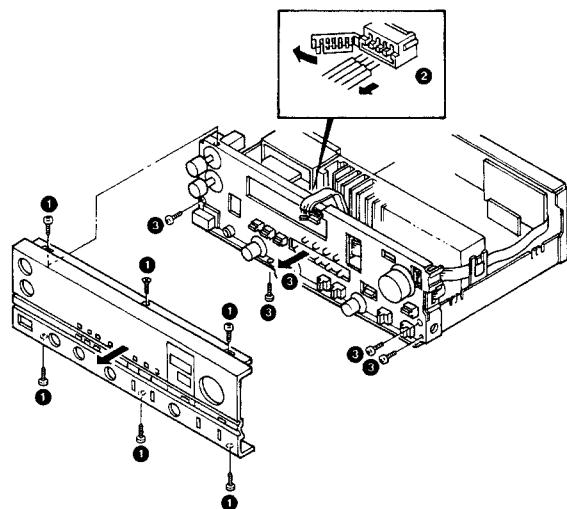
CONTENTS

DISASSEMBLY FOR REPAIR	2	PC BOARD.....	9
BLOCK & LEVEL DIAGRAM	4	CIRCUIT DIAGRAM	17
CIRCUIT DESCRIPTION	5	EXPLODED VIEW	25
ADJUSTMENT/REGLAGES/ABGLEICH	7	PARTS LIST	26
VOLTAGE TABLES	8	SPECIFICATIONS.....	Back cover

DISASSEMBLY FOR REPAIR

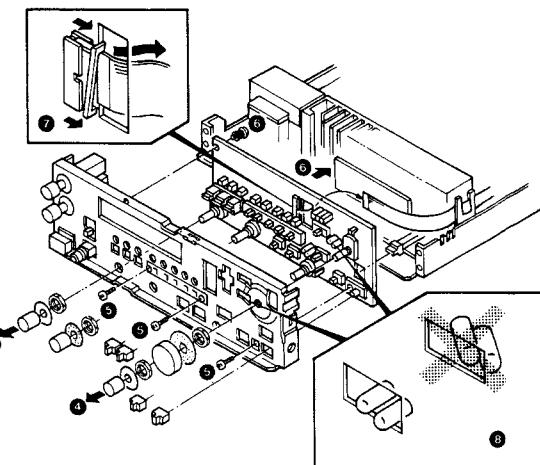
(Remove the metallic cabinet before performing the following operations.)

1. Remove the 6 screws (upper side : 3, lower side : 3) fixing the front panel to the sub panel (①).
2. Remove the cord from the connector CN3 on the Tone Unit (X11-2390-00) as shown in the diagram (②).
3. Remove the 4 screws fixing the sub panel to the chassis, and pull the sub panel slightly outward in the direction of the arrow (③).



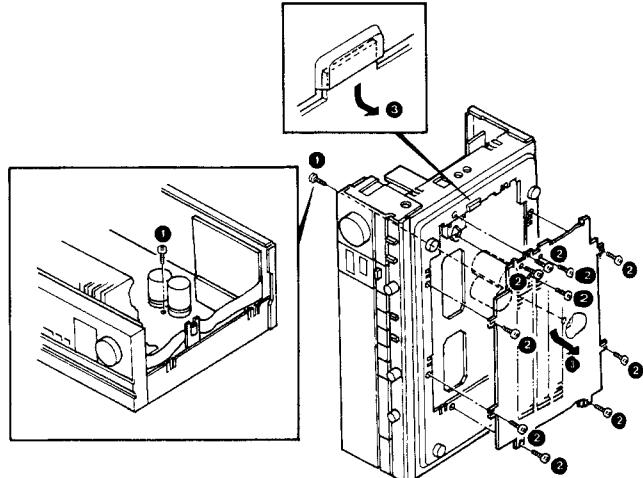
DISASSEMBLY FOR REPAIR

4. Pull out the 8 knobs of the BASS, TREBLE, MODE, SUBSONIC, BALANCE, MUTING, LOUDNESS and VOLUME CONTROL from the shafts, and remove the shield and hex. nuts from the BASS, TREBLE, BALANCE and VOLUME CONTROL (④).
5. Remove the 3 screws fixing the sub panel to the Tone Unit (X11-) (⑤).
6. Remove the push rivet fixing the Tone Unit (X11-) to the sub panel, and remove the Tone Unit (X11-) in the direction of the arrow (⑥).
7. Remove the flexible cord from the connector CN1 on the Tone Unit (X11-) as shown in the diagram (⑦).
8. When installing the Tone Unit (X11-) in the sub panel, take care not to bend the aluminum capacitors (⑧).

**Removing the bottom plate**

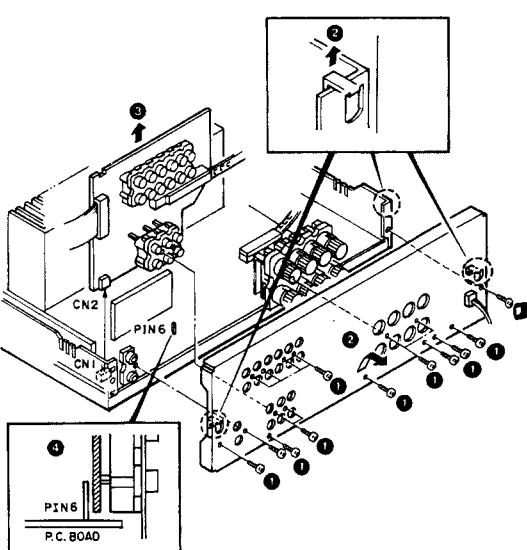
(Remove the metallic cabinet before performing the following operations.)

1. Remove the screw fixing the Audio Unit (X09-2520-10) (A/3) to the bottom plate (①).
2. Remove the 10 screws fixing the bottom plate to the chassis (②).
3. Paying attention to the claw of the bottom plate, take out the bottom plate in the direction of the arrow (③).

**Removing the rear panel and Sub-Circuit Unit**

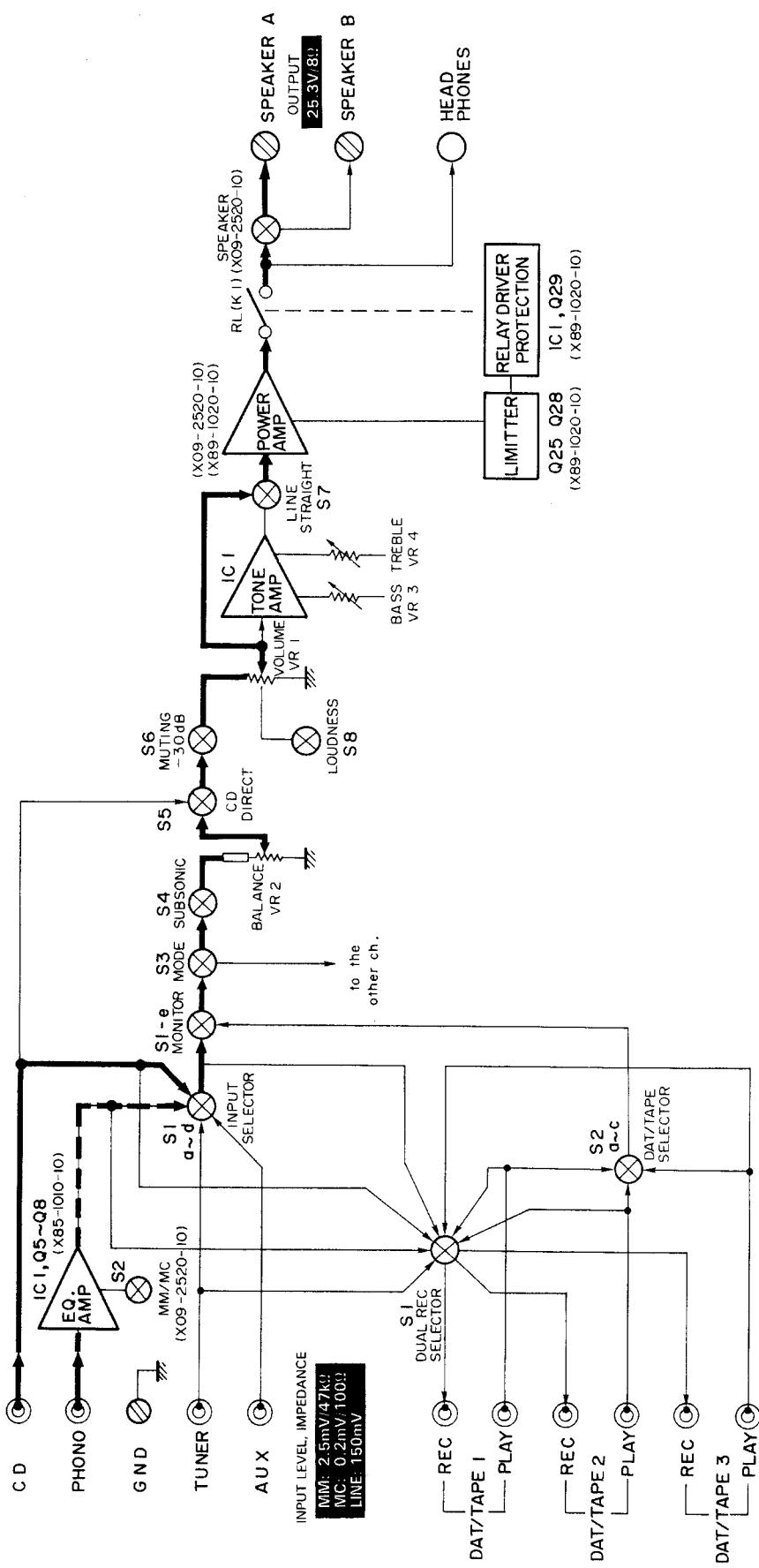
(Remove the metallic cabinet before performing the following operations.)

1. Remove the 16 screws retaining the rear panel (①).
2. Paying attention to the claws of the rear panel, take out the rear panel in the direction of the arrow (②).
3. Disconnect the connector CN2 from the Sub-Circuit Unit (X13-5632-71) and connector CN1 from the Audio Unit (X09-) (A/3), then remove the Sub-Circuit Unit (X13-) (③).
4. When installing, pay attention to the positions of the Sub-Circuit Unit (X13-) and Test Pin 6 (④).



KA-770D

BLOCK & LEVEL DIAGRAM



CIRCUIT DESCRIPTION

Function of components Audio unit (X09-2520-10)

Component	Use/Function	Operation/Condition/Interchangeability
Q1,2	For temperature compensation	Bias circuit. Compensates for the temperature of the final transistor.
Q3~6	Final transistor	
Q7,8	For constant current to the EQ power supply section	
Q9,10	For the shock noise countermeasure of the EQ power supply	
Q11,12	For the EQ power supply	
Q13,14	For constant current to the EQ power supply	
D1	For protection of relay's counterelectromotive force	
D2,3	A class 1st-stage constant voltage regulated power supply	
D4,5	For the power supply to the tone control circuit; constant voltage	
D6	For protection	
D7	For the LED power supply	
D8~11	For rectification to the power supply	
D12,13	For protection against static electricity	
D14	For the EQ power supply	
D15,16	For constant voltage to the EQ power supply	
D17	LED for the power indicator	

Tone unit (X11-2390-00)

Component	Use/Function	Operation/Condition/Interchangeability
IC1	For the tone control circuit	Function for the ± 6.2 V power supply, to which the Zener effect is applied by X09.

Pre-amplifier unit (X85-1010-10)

Component	Use/Function	Operation/Condition/Interchangeability
Q5~8	EQ circuit 1st-stage differential amplifier	
IC1	EQ circuit op amplifier IC	

Main amplifier unit (X89-1020-10)

Component	Use/Function	Operation/Condition/Interchangeability
Q1~4	Class A 1st-stage differential amplifier circuit	
Q5~8	Class A 1st-stage cascode circuit	
Q9~12	Class A 2nd-stage differential amplifier circuit	
Q13~16	Class A 3rd-stage differential amplifier circuit	
Q17,18	Class A cascode circuit	
Q19,20	Class A current Miller circuit	
Q21~24	Predriver	
Q25~28	Current limiter	In case of overload drive, limits the current at final Tr.
Q29	Protection driver	When current limiter operates, transmits the signal to protection IC (IC1).
IC1	Protection IC	
D1,2	Cascode base current assurance diodes	
D3,4	Current Miller V _{BE} compensation diodes	
D5~8	Reverse-current prevention diodes	

CIRCUIT DESCRIPTION

Dual REC OUT switch [X13-5632-71 (A/2)]

REC 1, 2, 3 output the signals indicated in the chart at right. REC 1 functions as the source selector, while REC 2 and REC 3 functions as the REC selector. During tape dubbing, the source signal is output at the playback TAPE REC-OUT.

POSITION	REC 1	REC 2	REC 3
OFF	OFF	OFF	OFF
CD → 2, 3	SOURCE	CD	CD
PHONO → 2, 3	SOURCE	PHONO	PHONO
TUNER → 2, 3	SOURCE	TUNER	TUNER
TAPE 1 → 2, 3	SOURCE	PLAY 1	PLAY 1
TAPE 2 → 1, 3	PLAY 2	SOURCE	PLAY 2

Note: Signal selected by the SOURCE INPUT SEL.

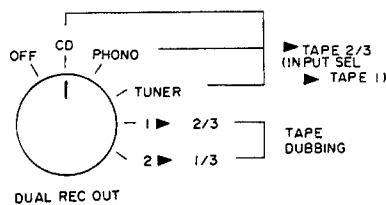
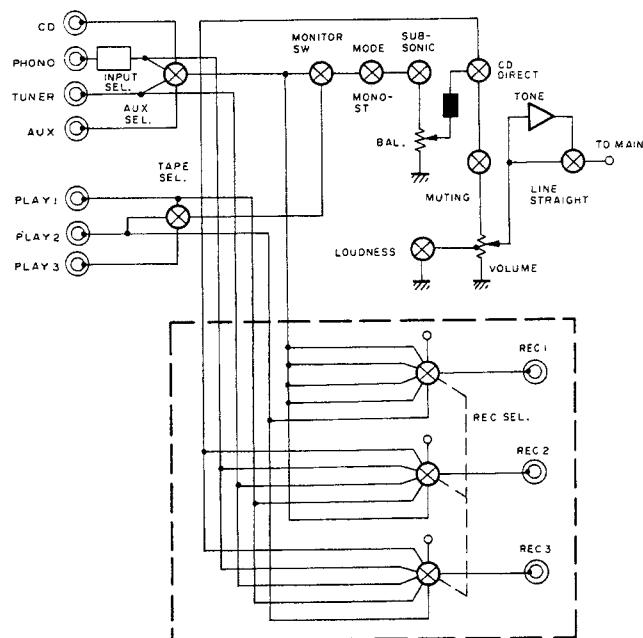


Fig. 1

Headphone circuit [X09-2520-10 (B/3)]

In the headphone circuit, the following points are different from the conventional circuit used with headphones having a higher impedance.

- 1) The constants are determined using a standard phone jack with switch so that the output impedance of the headphones is 120 ohms. When the phone jack is inserted, R59 is placed between HOT and GND. (See Fig. 3)
- 2) When the phone jack is not inserted, the R59 circuit located between HOT and GND is open. (See Fig. 4)

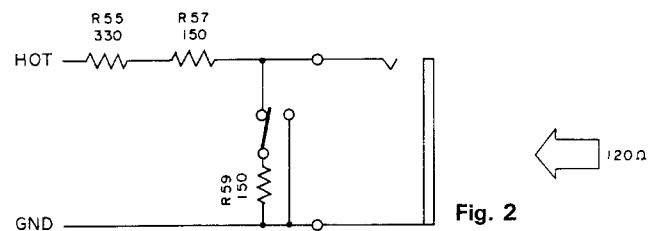


Fig. 2

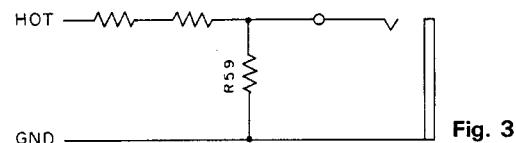


Fig. 3

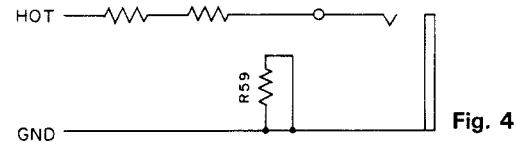


Fig. 4

ADJUSTMENT/REGLAGES/ABGLEICH**ADJUSTMENT**

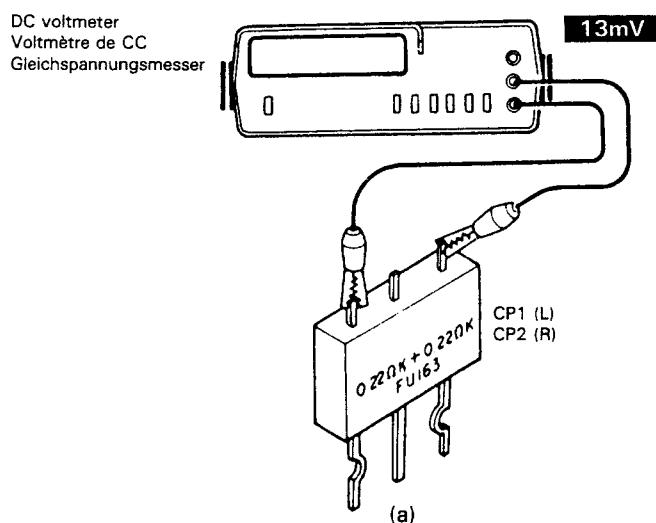
No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L) CP2 (R) (X09-)	VOLUME: 0	VR1 (L) VR2 (R) (X89-)	13mV	(a)

REGLAGES

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINT L' ALIGNEMENT	ALIGNER POUR	
1	COURANT DE POLARISATION	-	Connecter un voltmètre de CC sur CP1 (G) CP2 (D) (X09-)	VOLUME: 0	VR1 (G) VR2 (D) (X89-)	13mV	(a)

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	VERSTÄRKER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM	-	Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen. (X09-)	VOLUME: 0	VR1 (L) VR2 (R) (X89-)	13mV	(a)



KA-770D

VOLTAGE TABLES

X11-2390-00

IC1

4	-6.2V
8	6.2V

X89-1020-10

X89-1022-71

Q1.3

E	-0.7V
C	3.3V
B	0V

Q2.4

E	-0.7V
C	3.4V
B	0V

Q5.7

E	3.3V
C	14.8V
B	4V

Q6.8

E	3.4V
C	14.8V
B	4V

Q9.10

E	-
C	48.3V
B	14.8V

Q11.12

E	-
C	48.2V
B	14.8V

Q13

E	48.5V
C	2.1V
B	48.3V

Q15

E	48.5V
C	1V
B	48.2V

Q16

E	48.6V
C	1V
B	48.2V

Q14

E	48.6V
C	2.1V
B	48.3V

Q17

E	-
C	-48.2V
B	-

Q18

E	0.6V
C	-48.1V
B	-

Q19

E	-48.6V
C	-
B	-48.2V

Q20

E	-48.5V
C	-1.3V
B	-48.1V

Q21,22

E	0.5V
C	50V
B	1V

Q23,24

E	-0.7V
C	-50V
B	-1.3V

X85-1010-10

IC1

1	0V
2	3.8V
3	3.8V
4	-20.1V
8	19.7V

Q5

G	0.5V
D	3.8V
S	-

Q6

G	0V
D	3.8V
S	-

X09-2520-10

Q3,4

E	-
C	50V
B	0.5V

Q5,6

E	-
C	-50V
B	-0.7V

Q7

E	-
C	-7.5V
B	-15.1V

Q8

E	-
C	-7.6V
B	-15.1V

Q9

E	19.7V
C	-
B	-

Q10

E	-
C	-20.5V
B	3.8V

Q11

E	19.7V
C	47.5V
B	20.2V

Q12

E	-20.1V
C	-47.5V
B	-20.5V

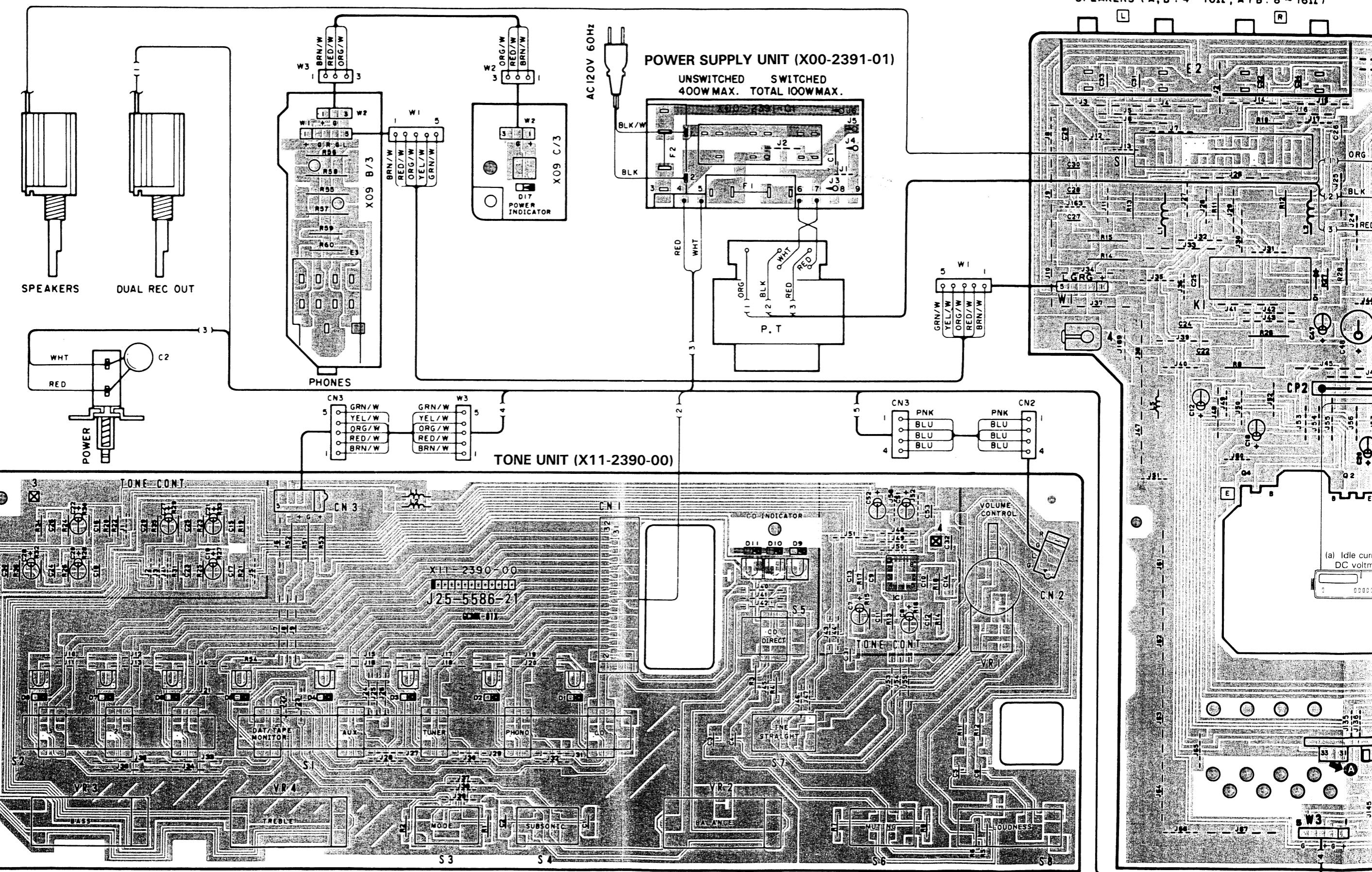
Q13

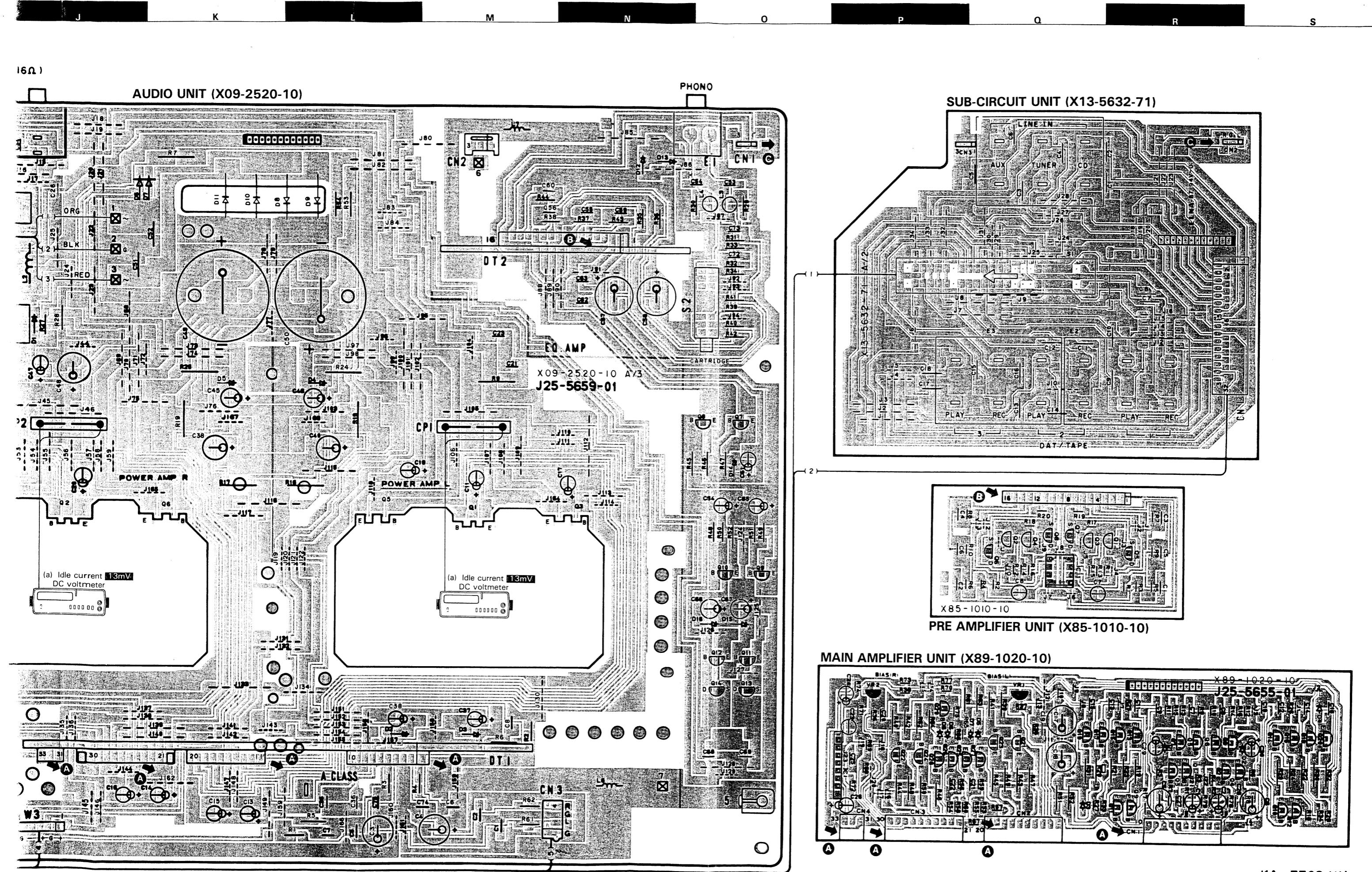
G	20.2V
S	-
D	20.2V

Q14

G	-47.5V
S	-
D	-47.5V

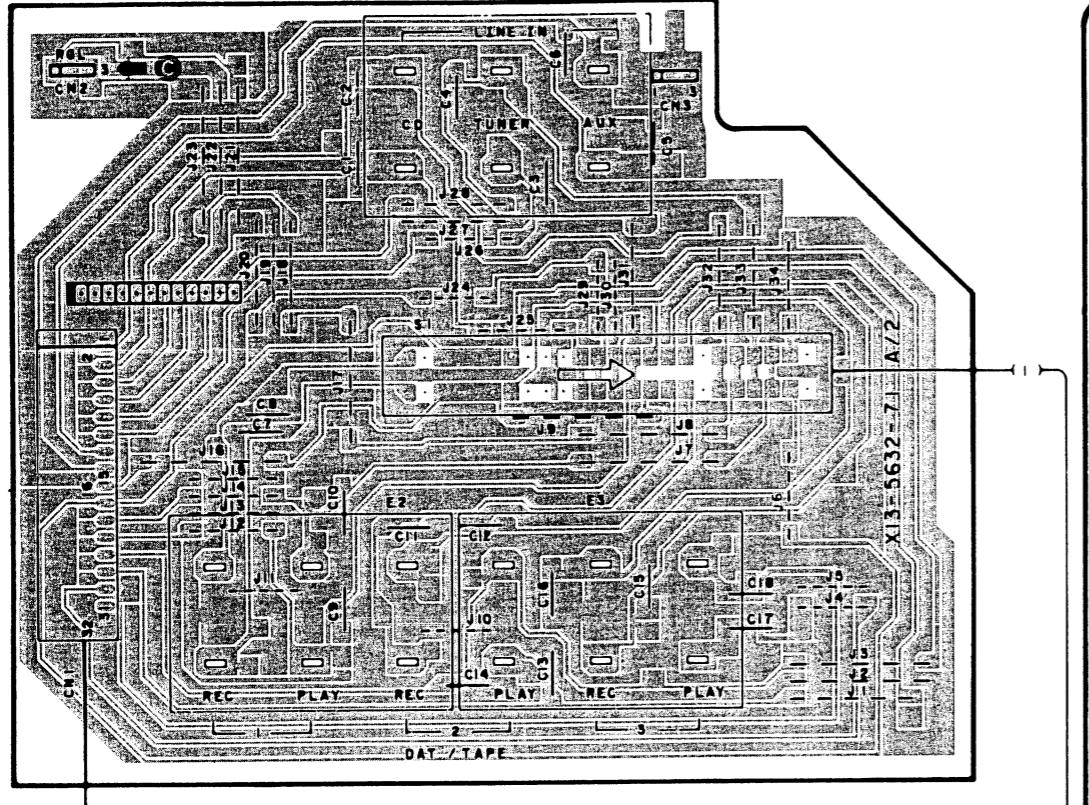
PC BOARD (Component side view)





PC BOARD (Foil side view)

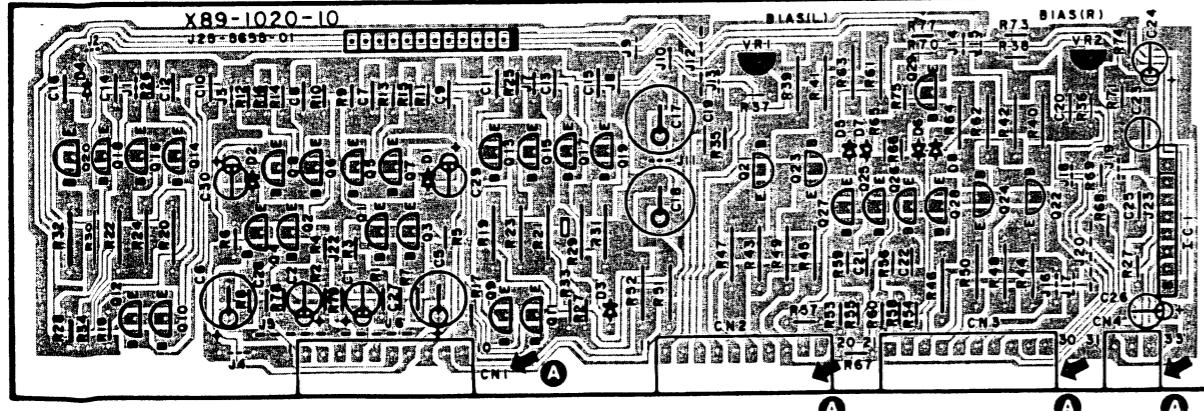
SUB-CIRCUIT UNIT (X13-5632-71)



This is a detailed circuit board layout diagram for model X85-1010-10. The board features a complex network of interconnected tracks and pads. Components are labeled with part numbers such as C1, R17, R19, R20, R18, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, and C2. A large central integrated circuit is mounted on the board. Various capacitors (C1 through C20) and resistors (R1 through R20) are distributed across the board. Diodes (D1 through D20) are also present. A prominent arrow points from the top right towards the center of the board, indicating a specific assembly direction or flow. The entire diagram is contained within a rectangular border.

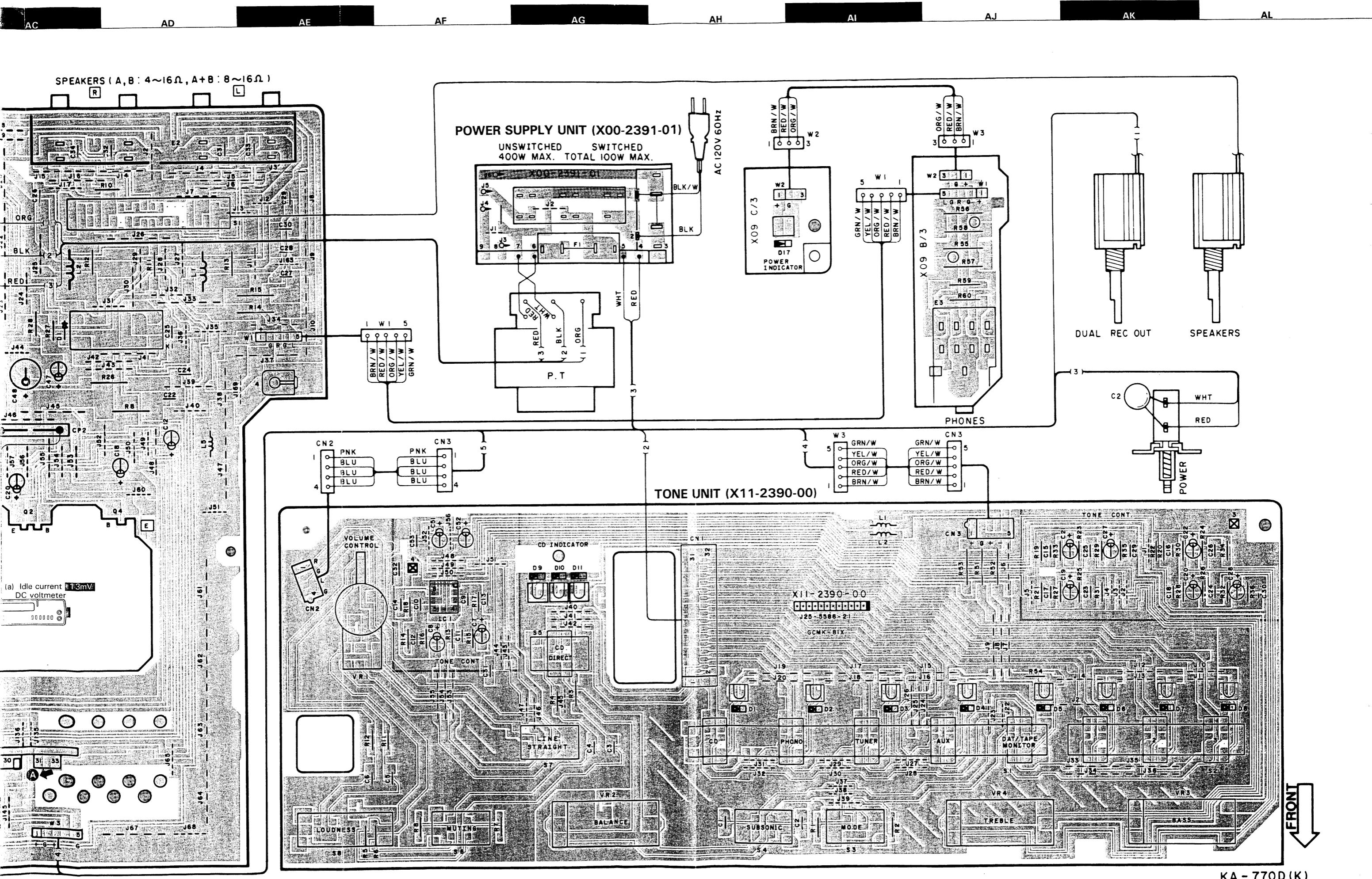
PRE AMPLIFIER UNIT (X85-1010-10)

MAIN AMPLIFIER UNIT (X89-1020-10)



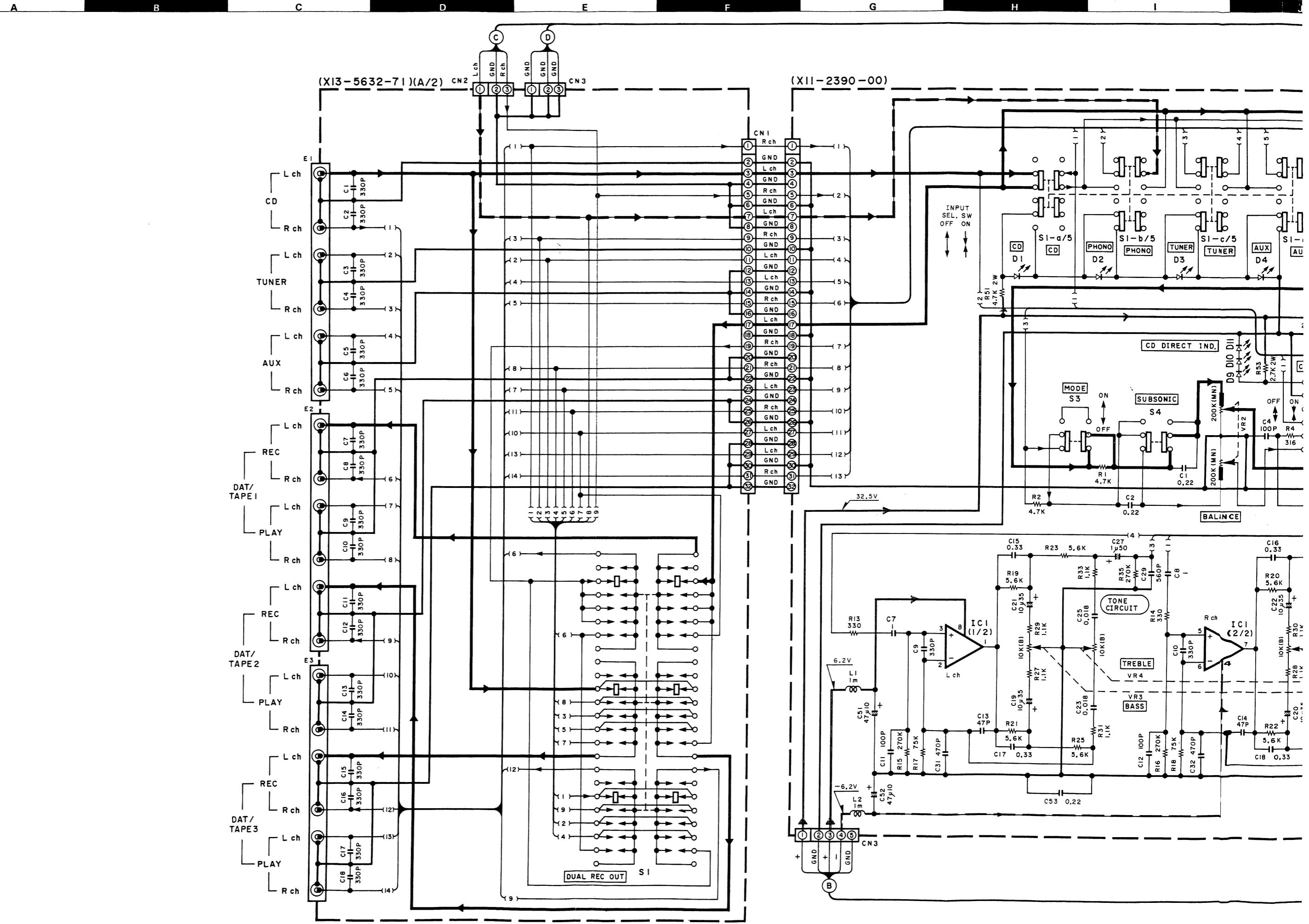
The diagram shows the layout of the AUDIO UNIT (X09-2520-10) circuit board. Key components and areas include:

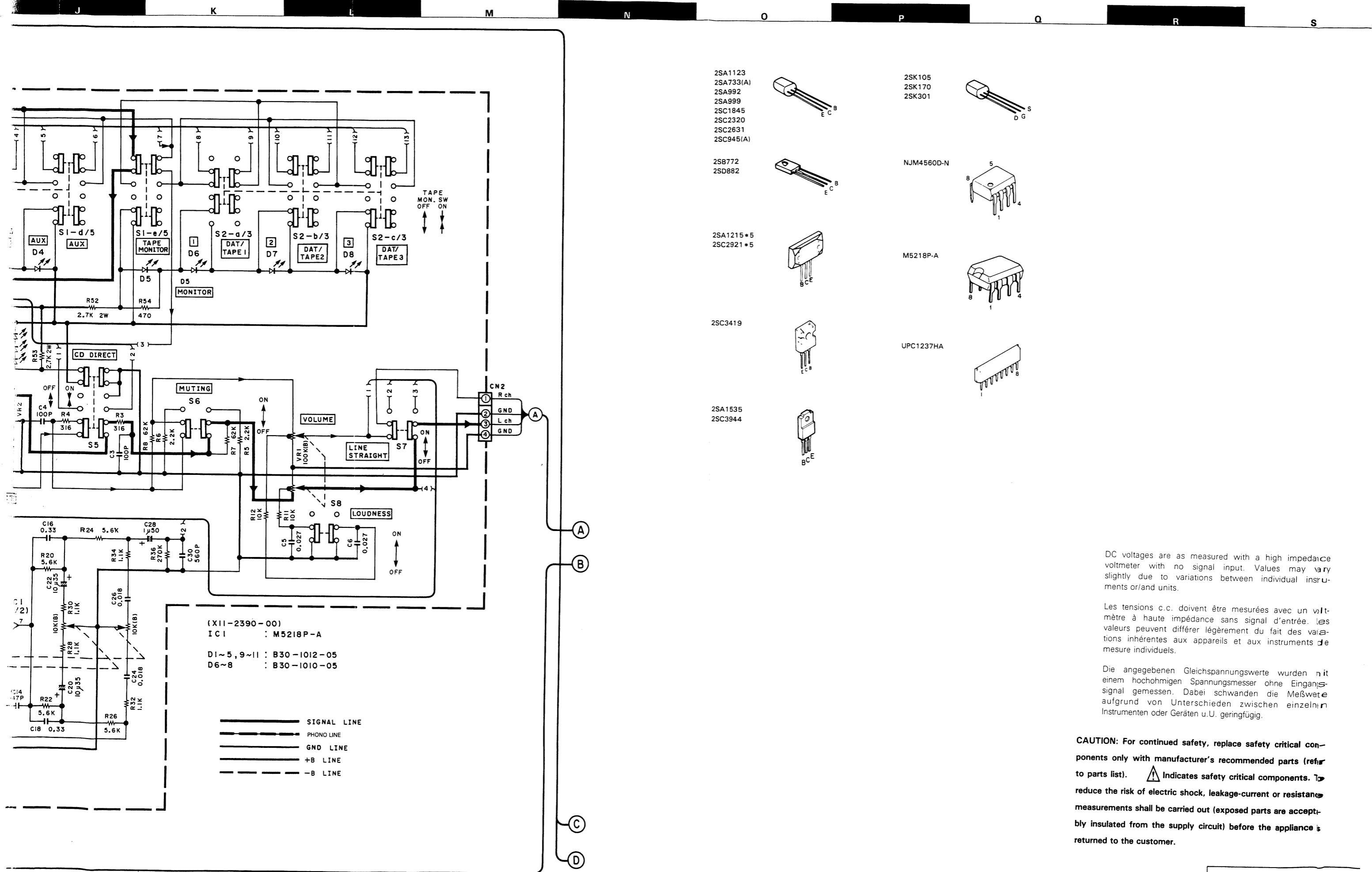
- PHONO**: Input terminal at the top left.
- CARTRIDGE**: Input terminal near the center-left.
- X09 - 2520 - 10 A/3**: Reference label for the board.
- POWER AMP L** and **POWER AMP R**: Power amplifier sections on the right side.
- CLASS**: Section labeled "CLASS" at the bottom center.
- WIRELESS**: Section labeled "WIRELESS" at the bottom right.
- DC voltmeter**: Two measurement points labeled "(a) Idle current 13mV DC voltmeter" located in the center and bottom right.
- Component labels**: Numerous component labels such as C1, C2, R1, R2, D1, D2, U1, U2, J1, J2, etc., are scattered across the board.
- Mounting holes**: Numerous circular mounting holes are shown throughout the board.

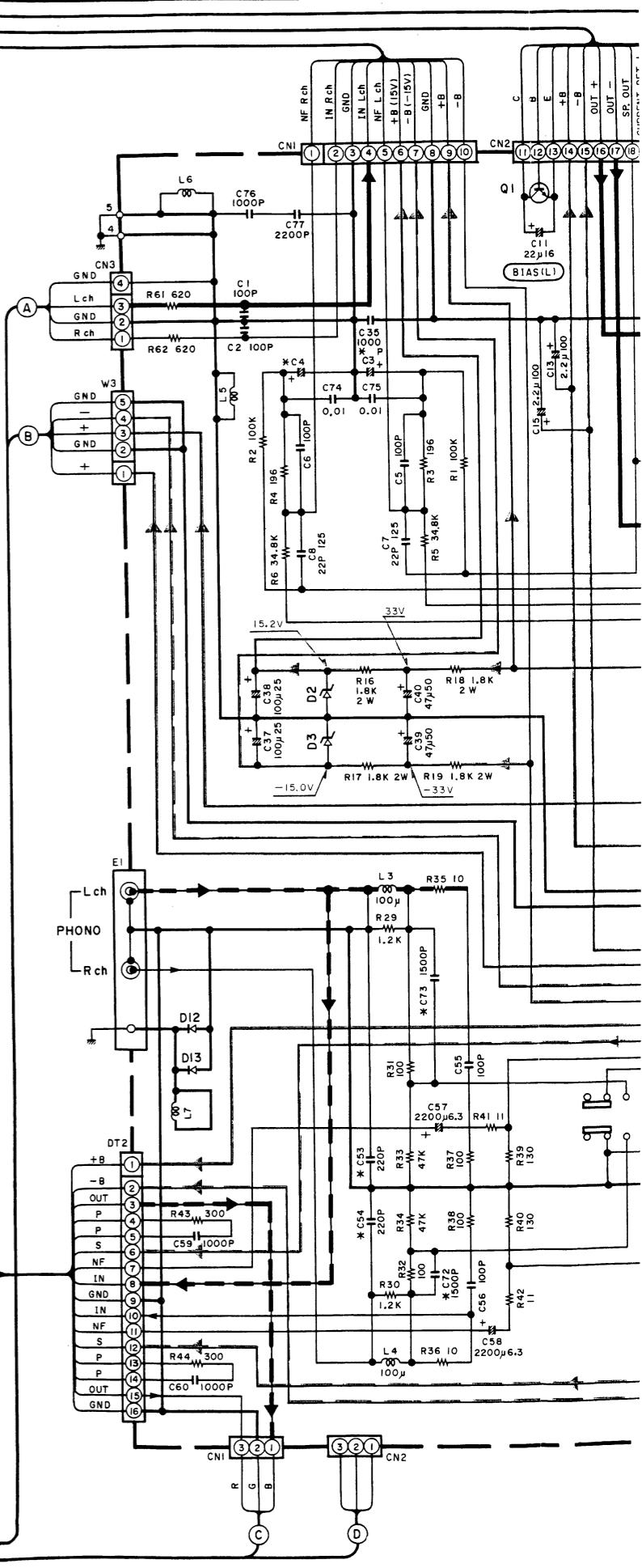
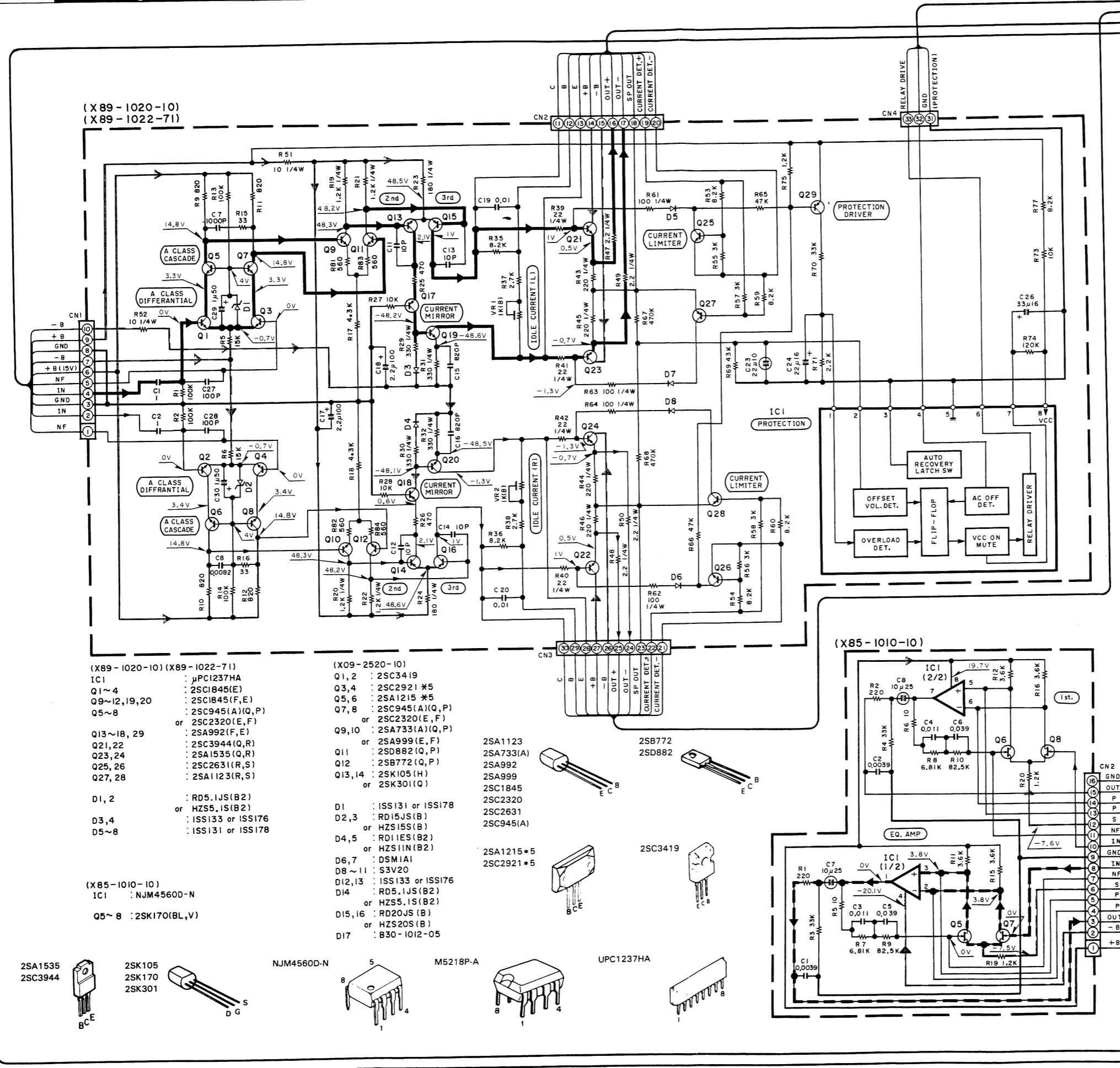


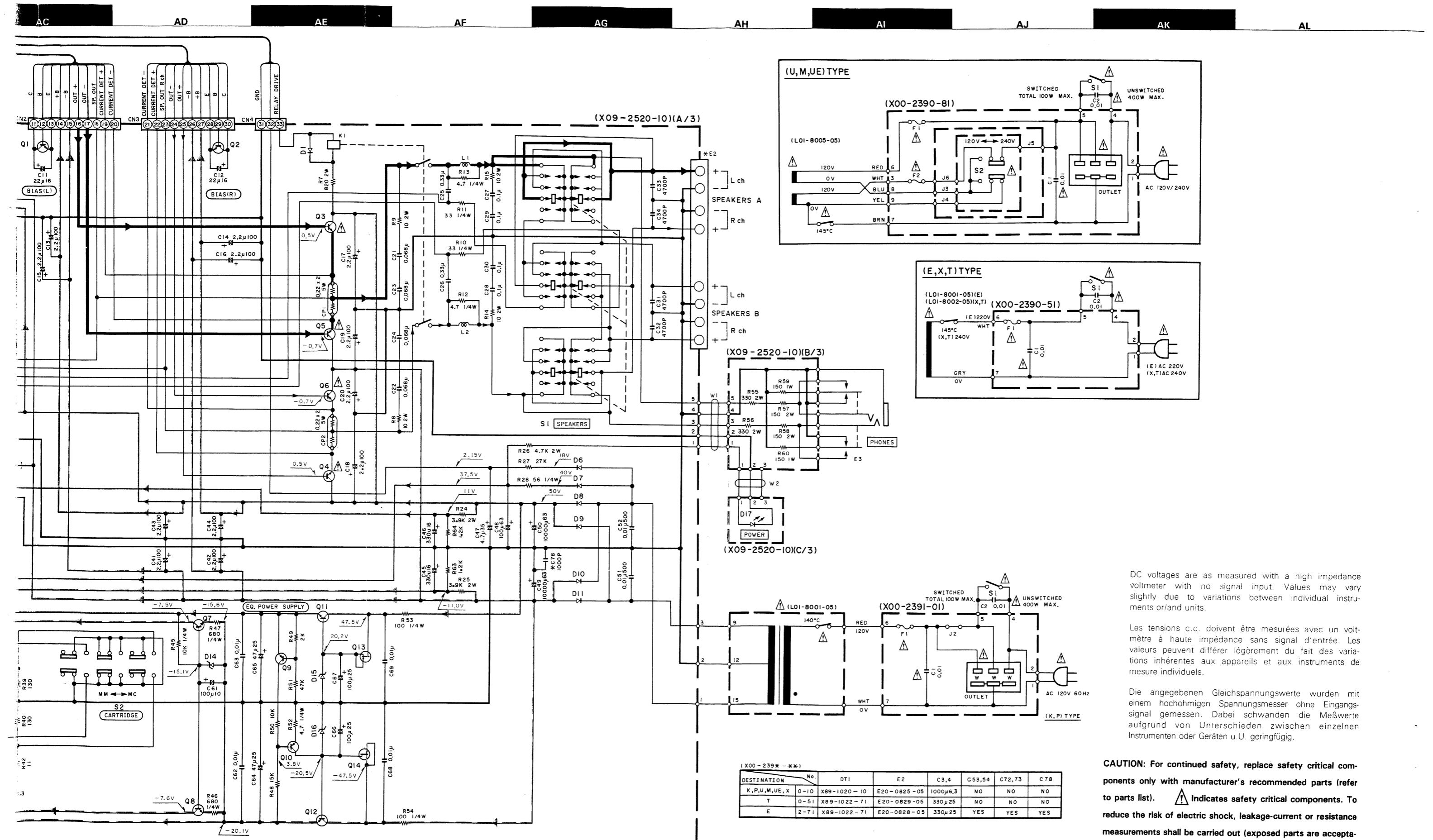
KA - 770D(K)

Refer to the schematic diagram for the values of resistors and capacitors.



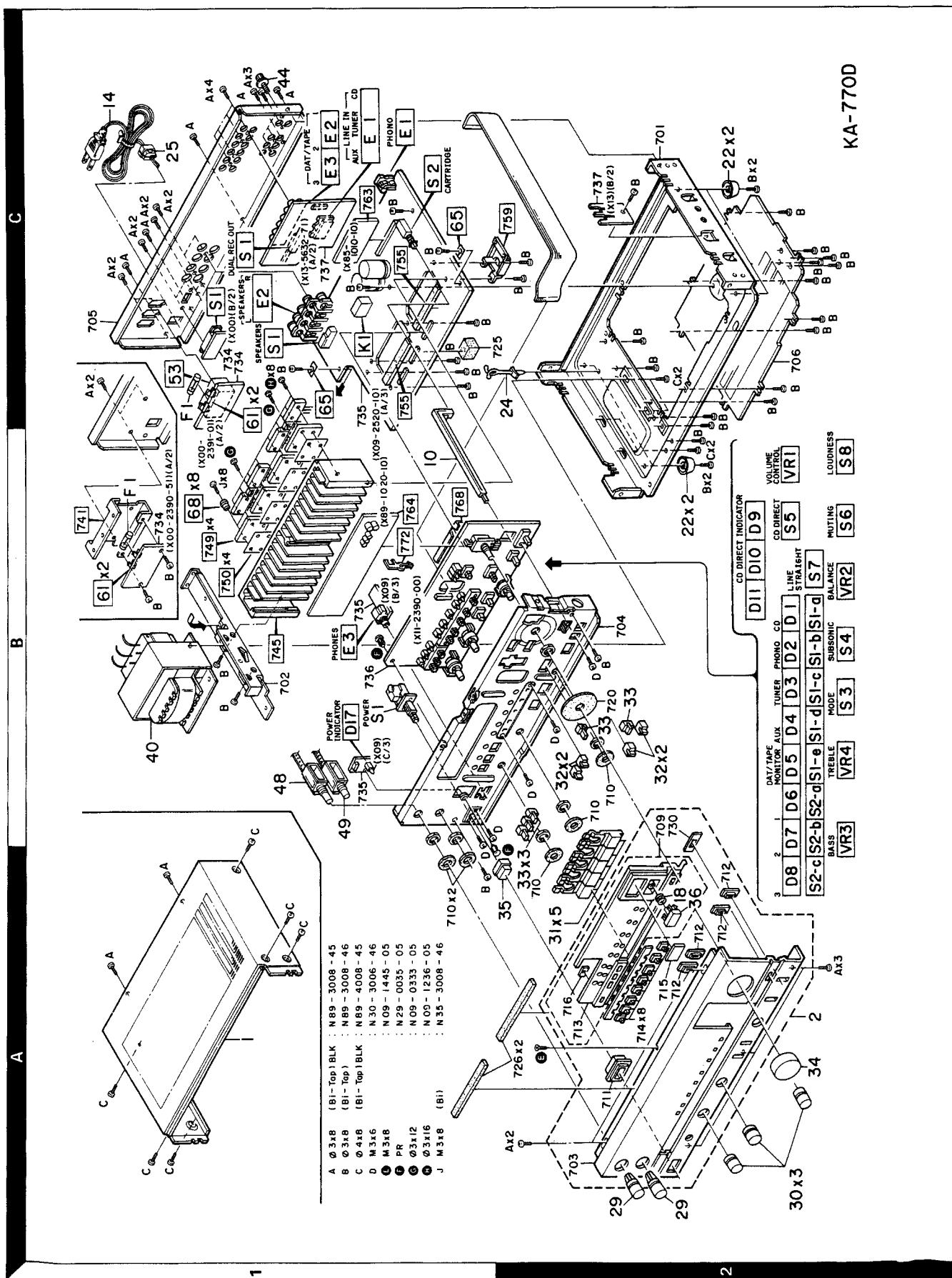






KA-770D

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

KA-770D

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕 向	Re- marks 備考
KA-770D						
1	1A	*	A01-1553-01	METALLIC CABINET		
2	2A	*	A20-5303-03	PANEL ASSY		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-03	WARRANTY CARD	T	
-		*	B50-6947-00	INSTRUCTION MANUAL(ENGLISH)	PMXE	
-		*	B50-6948-00	INSTRUCTION MANUAL(FRENCH)	M	
-		*	B50-6949-00	INSTRUCTION MANUAL(SPANISH)		
-		*	B50-6951-00	INSTRUCTION MANUAL(G,D,I)	E	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B58-0803-03	CAUTION CARD	E	
-			B58-0862-00	CAUTION CARD	TE	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
△ C2			C91-0023-05	CERAMIC 0.01UF	AC250V	UMUE
△ C2			C91-0647-05	CERAMIC 0.01UF	P	KPXTE
10	1B		D21-1104-03	EXTENSION SHAFT		
△ 14	1C		E30-0459-05	AC POWER CORD	E	
△ 14	1C		E30-0812-05	AC POWER CORD	UMUE	
△ 14	1C		E30-0978-05	AC POWER CORD	KP	
△ 14	1C		E30-1341-05	AC POWER CORD	X	
△ 14	1C		E30-1416-05	AC POWER CORD	T	
△ F1	1C		F05-2521-05	FUSE (250V 2.5A)	UMUE	
△ F1	1B		F05-2525-05	FUSE (SEMKO) (250V T2.5A)	XTE	
△ F1	1C		F06-5022-05	FUSE (UL) (250V 5A)	KP	
18	2A		G01-1751-04	COMPRESSION SPRING(CD DIRECT)		
-		*	H01-7628-04	ITEM CARTON CASE		
-			H10-3416-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-3417-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0225-04	PROTECTION BAG (850X450X0.03)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
22	2B,2C		J02-0127-05	FOOT		
22	2B,2C		J02-0156-05	FOOT (Ø40X12.5)	K	
22	2B,2C		J02-0156-05	FOOT (Ø40X12.5)	PUMUX	
24	2C		J11-0096-05	WIRE CLAMPER	TE	
25	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
29	2A		K29-1822-04	KNOB (SPEAKERS, DUAL REC OUT)		
30	2A		K29-2077-03	KNOB (BASS, TREBLE, BALANCE)		
31	2A		K29-2684-04	KNOB (MONI, AUX, TUN, PHONO, CD)		
32	2B		K29-2685-14	KNOB ASSY(BUTTON)M0, SUBS, MU, L0		
33	2A,2B		K29-2687-14	KNOB ASSY(BUTTON)1-3, LINE ST		
34	2A		K29-2689-04	KNOB (VOLUME CONTROL)		
35	2A		K29-2724-04	KNOB ASSY(BUTTON)POWER		

E: Scandinavia & Europe K: USA

P: Canada

U: PX(Far East, Hawaii) T: England

M: Other Areas

UE: AAFES(Europe) X: Australia

 indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格				Desti- nation 仕向	Re- marks 備考
36	2A	*	K29-2727-04	KNOB (BUTTON) CD DIRECT					
▲ 40	1B	*	L01-8001-15	POWER TRANSFORMER				KP	
▲ 40	1B	*	L01-8002-15	POWER TRANSFORMER				XT	
▲ 40	1B	*	L01-8005-15	POWER TRANSFORMER				UMUE	
▲ 40	1B	*	L01-8007-15	POWER TRANSFORMER				E	
▲ 44	1C		N08-0128-35	BINDING POST (GND)					
E	2A		N09-1445-05	SET SCREW (M3X8)					
F	2A		N29-0035-05	PUSH RIVET (3.5X5.5)					
▲ 48	1B		S90-0102-05	REMOTE WIRE (SPEAKERS)					
▲ 49	1B		S90-0103-05	REMOTE WIRE (DUAL REC BUT)					
▲ S1	1B		S40-1073-05	PUSH SWITCH (POWER)					
POWER SUPPLY UNIT (X00-2391-01)									
▲ C1			C91-0023-05	CERAMIC	0.01UF	AC250V		UMUE	
▲ C1			C91-0647-05	CERAMIC	0.01UF	P		KPXTE	
▲ 53	1C	*	E03-0077-05	AC OUTLET				UMUE	
▲ 57	1C	*	E03-0078-05	AC OUTLET				KP	
▲ 61	1C		J13-0041-05	FUSE CLIP				KPUMUE	
▲ 61	1B		J13-0054-05	FUSE CLIP				XTE	
▲ S1	1C		S31-2083-05	SLIDE SWITCH (POWER TYPE)				UMUE	
AUDIO UNIT (X09-2520-10)									
D17	1B		B30-1012-05	LED(SLP-981C-50) POWER IND.					
C1 ,2			CQ09FS1H101JZS	POLYSTY	100PF	J			
C3 ,4			CEO4KW0J102M	ELECTR0	1000UF	6.3WV		KPUMUE	
C3 ,4			CEO4KW0J102M	ELECTR0	1000UF	6.3WV	X		
C3 ,4			CEO4KW1E331M	ELECTR0	330UF	25WV			
C5 ,6			CQ09FS1H101JZS	POLYSTY	100PF	J	TE		
C7 ,8			C91-0170-05	POLYSTY	22PF	K			
C11 ,12			CEO4KW1C220M	ELECTR0	22UF	16WV			
C13 -20		*	CEO4KW2A2R2M	ELECTR0	2.2UF	100WV			
C21 -24			CF92FV1H683J	MF	0.068UF	J			
C25 ,26			CF92FV1H334J	MF	0.33UF	J			
C27 -30			CF92FV1H104J	MF	0.10UF	J			
C31 -34			CK45FF1H472Z	CERAMIC	4700PF	Z			
C35			CF92FV1H102J	MF	1000PF	J			
C37 ,38			CEO4KW1E101M	ELECTR0	100UF	25WV			
C39 ,40			CEO4KW1H470M	ELECTR0	47UF	50WV			
C41 -44		*	CEO4KW2A2R2M	ELECTR0	2.2UF	100WV			
C45 ,46			CEO4KW1E101M	ELECTR0	100UF	25WV			
C47			CEO4KW1V4R7M	ELECTR0	4.7UF	35WV			
C48			CEO4KW1J101M	ELECTR0	100UF	63WV			
C49 ,50		*	C90-1578-05	ELECTR0	10000UF	63WV			
C51 ,52			CK45FE2H103P	CERAMIC	0.010UF	P			
C53 ,54			CC45FSL1H221J	CERAMIC	220PF	J			
C55 ,56			CC45FSL1H101J	CERAMIC	100PF	J			
C57 ,58			CEO4KW0J222M	ELECTR0	2200UF	6.3WV			
C59 ,60			CK45FB1H102K	CERAMIC	1000PF	K			
C61			CEO4KW1A101M	ELECTR0	100UF	10WV			
C62 ,63			CF92FV1H103J	MF	0.010UF	J			
C64 ,65			CEO4KW1E470M	ELECTR0	47UF	25WV			
C66 ,67			CEO4KW1E101M	ELECTR0	100UF	25WV			
C68 ,69			CF92FV1H103J	MF	0.010UF	J			

E: Scandinavia & Europe K: USA

P: Canada

U: PX(Far East, Hawaii)

T: England

M: Other Areas

UE: AAFES(Europe)

X: Australia

▲ indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新 品	Parts No. 部品番号	Description 部品名 / 規格				Desti- nation 仕 向	Re- marks 備考	
C72 ,73 C74 ,75 C76 C77 C78			CK45FB1H152K CF92FV1H103J CF92FV1H102J CF92FV1H222J CK45FB1H102K	CERAMIC MF MF MF CERAMIC	1500PF 0.010UF 1000PF 2200PF 1000PF	K J J J K	E E			
65 E1 E2 E2 E2	1C 1C 1C 1C 1C		E23-0149-05 E13-0235-05 E20-0828-05 E20-0828-05 E20-0829-05	TERMINAL PHONO JACK (2P) PHONO SCREW TERMINAL BOARD (SPEAKERS) SCREW TERMINAL BOARD (SPEAKERS) SCREW TERMINAL BOARD (SPEAKERS)			KPUMUE XE T			
E3	1B		E11-0174-05	PHONE JACK						
68	1B	*	F29-0042-05	INSULATING WASHER						
L1 ,2 L3 ,4 L5 -7			L39-0080-15 L40-1011-47 L92-0017-05	PHASE-COMPENSATION COIL SMALL FIXED INDUCTOR (100UH, K) FERRITE CORE						
G H	1B 1B, 1C		N09-0333-05 N09-1236-05	TAPPING SCREW (Ø3X12) TAPPING SCREW (Ø3X16)						
CP1 ,2 R3 ,4 R5 ,6 R7 R8 ,9			R90-0187-05 RN14BK2C1960F RN14BK2C3482F RS14DB3D821J RS14DB3D100JTE	MULTI-COMP RN RN FL-PROOF RS FL-PROOF RS	0.22X2 196.0 34.8K 820 10	K F F J J	5W 1/6W 1/6W 2W 2W			
R10 ,11 R12 ,13 R14 ,15 R16 -19 R24 ,25			RD14AB2E330JTS RD14AB2E4R7JTS RS14DB3D100JTE RS14DB3D182JTE RS14DB3D332JTE	FL-PROOF RD FL-PROOF RD FL-PROOF RS FL-PROOF RS FL-PROOF RS	33 4.7 10 1.8K 3.3K	J J J J J	1/4W 1/4W 2W 2W 2W			
R26 R28 R45 R46 ,47 R52		*	RS14DB3D472J RD14AB2E560JTS RD14AB2E103JTS RD14AB2E681JTS RD14AB2E4R7JTS	FL-PROOF RS FL-PROOF RD FL-PROOF RD FL-PROOF RD FL-PROOF RD	4.7K 56 10K 680 4.7	J J J J J	2W 1/4W 1/4W 1/4W 1/4W			
R53 ,54 R55 ,56 R57 ,58 R59 ,60			RD14AB2E101JTS RS14DB3D331JTE RS14DB3D151JTE RS14DB3A151JTE	FL-PROOF RD FL-PROOF RS FL-PROOF RS FL-PROOF RS	100 330 150 150	J J J J	1/4W 2W 2W 1W			
K1 S1 S2	2C 1C 1C		SS1-2078-05 S90-0062-05 S40-6033-05	MAGNETIC RELAY SLIDE SWITCH (SPEAKERS) PUSH SWITCH (CARTRIDGE)						
D1 D1 D2 ,3 D2 ,3 D4 ,5			ISS131 ISS178 H2S15S(B) RD15JS(B) H2S11N(B2)	DIODE DIODE ZENER DIODE ZENER DIODE ZENER DIODE						
D4 ,5 D6 ,7 D8 -11 D12 ,13 D12 ,13			RD11ES(B2) DSM1A1 S3V20 ISS133 ISS176	ZENER DIODE DIODE DIODE DIODE DIODE						
D14 D14 D15 ,16			H2S5.1S(B2) RD5.1JS(B2) H2S20S(B)	ZENER DIODE ZENER DIODE ZENER DIODE						

E: Scandinavia & Europe K: USA

P: Canada

U: PX(Far East, Hawaii) T: England

M: Other Areas

UE: AAFES(Europe) X: Australia

 indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規 格	Desti- nation 仕 向	Re- marks 備考
D15 ,16			RD20JS(B) 2SC3419	ZENER DIODE		
Q1 ,2			2SC2921*5	TRANSISTOR		
Q3 ,4			2SA1215*5	TRANSISTOR		
Q5 ,6			2SC2320(E,F)	TRANSISTOR		
Q7 ,8			2SC945(A)(Q,P)	TRANSISTOR		
Q9 ,10			2SA733(A)(Q,P)	TRANSISTOR		
Q9 ,10			2SA999(E,F)	TRANSISTOR		
Q11			2SD882(Q,P)	TRANSISTOR		
Q12			2SB772(Q,P)	TRANSISTOR		
Q13 ,14			2SK105(H)	FET		
Q13 ,14			2SK301(Q)	FET		

TONE UNIT (X11-2390-00)

D1 -5	2B		B30-1012-05	LED(SLP-981C-50)MONI,AUX,TU,CD		
D6 -8	2A,2B		B30-1010-05	LED(SLP-281F-50U)1-3		
D9 -11	2B		B30-1012-05	LED(SLP-981C-50)CD DIRECT IND.		
C1 ,2			CF92FV1H224J	MF 0.22UF	J	
C3 ,4			CQ09FS1H101JZS	POLYSTY 100PF	J	
C5 ,6			CF92FV1H273J	MF 0.027UF	J	
C7 ,8			CEO4KW1H010M	ELECTRO 1.0UF	50WV	
C9 ,10			CC45FSL1H331J	CERAMIC 330PF	J	
C11 ,12			CQ09FS1H101JZS	POLYSTY 100PF	J	
C13 ,14			CC45FSL1H470J	CERAMIC 47PF	J	
C15 -18			CF92FV1H334J	MF 0.33UF	J	
C19 -22			CEO4KW1V100M	ELECTRO 10UF	35WV	
C23 -26			CF92FV1H183J	MF 0.018UF	J	
C27 ,28			CEO4KW1H010M	ELECTRO 1.0UF	50WV	
C29 ,30			CK45FB1H561K	CERAMIC 560PF	K	
C31 ,32			CK45FB1H471K	CERAMIC 470PF	K	
C51 ,52			CEO4KW1A470M	ELECTRO 47UF	10WV	
C53			CF92FV1H224J	MF 0.22UF	J	
L1 ,2			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
R3 ,4		*	RN14BK2C3160F	RN 316.0 F 1/6W		
R51		*	RS14KB3D472JTE	FL-PR00F RS 4.7K J 2W		
R52 ,53		*	RS14KB3D272JTE	FL-PR00F RS 2.7K J 2W		
VR1	2B		R06-5152-05	POTENTIOMETER(100KB)VOL CONT		
VR2	2B	*	R06-5161-05	POTENTIOMETER(200KMN)BALANCE		
VR3 ,4	2B	*	R06-3053-05	POTENTIOMETER(10KB)BASS,TREBLE		
S1	2B	*	S42-5050-05	MULTIPLE PUSH SWITCH(MONI,AUX)		
S2	2A,2B	*	S42-3106-05	MULTIPLE PUSH SWITCH(1-3)		
S3 ,4	2B	*	S40-2351-05	PUSH SWITCH (MODE,SUBSONIC)		
S5	2B	*	S40-4062-05	PUSH SWITCH (CD DIRECT)		
S6 ,7	2B	*	S40-2351-05	PUSH SWITCH (MUTE,LINE STR)		
S8	2B	*	S40-2361-05	PUSH SWITCH (LOUDNESS)		
IC1			M5218P-A	IC(OP AMP X2)		

SUB-CIRCUIT UNIT (X13-5632-71)

C1 -18			C91-0751-05	CERAMIC 330PF K		
E1 -3	1C	*	E13-0630-05	PHONE JACK (LINE IN,DAT/TAPE)		
S1	1C		S90-0078-05	SLIDE SWITCH (DUAL REC OUT)		

E: Scandinavia & Europe

K: USA P: Canada

U: PX(Far East, Hawaii)

T: England M: Other Areas

UE: AAFES(Europe)

X: Australia

▲ indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格				Desti- nation 仕 向	Re- marks 備考
PRE AMPLIFIER UNIT (X85-1010-10)									
C1 ,2			CF92FV1H392J	MF	3900PF	J			
C3 ,4			CF92FV1H113J	MF	0.011UF	J			
C5 ,6			CF92FV1H393J	MF	0.039UF	J			
C7 ,8			CE04HW1E100MEL	NP-ELEC	10UF	25WV			
R7 ,8		*	RN14BK2C6811FTS	RN	6.81K	F 1/6W			
R9 ,10		*	RN14BK2C8252FTS	RN	82.5K	F 1/6W			
IC1			NJM4560D-N	IC(8P AMP X2)					
Q5 -8			2SK170(BL)	FET					
Q5 -8			2SK170(V)	FET					
MAIN AMPLIFIER UNIT (X89-1020-10)									
C1 ,2			CF92FV1H105J	MF	1.0UF	J			
C7 ,8			CF92FV1H822J	MF	8200PF	J			
C9 ,10			CC45FSL1H220J	CERAMIC	22PF	J			
C11 ,12			CC45FSL1H101J	CERAMIC	100PF	J			
C13 ,14			CC45FSL1H220J	CERAMIC	22PF	J			
C15 ,16		*	CK45FB1H821K	CERAMIC	820PF	K			
C17 ,18		*	CEO4KW2A2R2M	ELECTRO	2.2UF	100WV			
C19 ,20		*	CK45FF1H103Z	CERAMIC	0.010UF	Z			
C23			C90-1333-05	NP-ELEC	22UF	10WV			
C24			CEO4KW1C220M	ELECTRO	22UF	16WV			
C26			CEO4KW1C330M	ELECTRO	33UF	16WV			
C27 ,28			CC45FSL1H101J	CERAMIC	100PF	J			
C29 ,30			CEO4KW1H010M	ELECTRO	1.0UF	50WV			
R1 ,2			RN14BK2C1003FTS	RN	100K	F 1/6W			
R19 -22			RD14AB2E122JTS	FL-PR00F RD	1.2K	J 1/4W	TE		
R23 ,24			RD14AB2E181JTS	FL-PR00F RD	180	J 1/4W			
R29 -32			RD14AB2E331JTS	FL-PR00F RD	330	J 1/4W			
R39 -42			RD14AB2E220JTS	FL-PR00F RD	22	J 1/4W			
R43 -46			RD14AB2E221JTS	FL-PR00F RD	220	J 1/4W			
R47 -50			RD14AB2E2R2JTS	FL-PR00F RD	2.2	J 1/4W			
R51 ,52			RD14AB2E100JTS	FL-PR00F RD	10	J 1/4W			
R61 -63			RD14AB2E101JTS	FL-PR00F RD	100	J 1/4W			
R64			RD14GB2E101JTS	FL-PR00F RD	100	J 1/4W			
VR1 ,2			R12-1070-05	TRIMMING POT. (1K) BIAS ADJ					
D1 ,2			HZS5.1S(B2)	ZENER DIODE					
D1 ,2			RD5.1JS(B2)	ZENER DIODE					
D3 ,4			1SS133	DIODE					
D3 ,4			1SS176	DIODE					
D5 -8			1SS131	DIODE					
D5 -8			1SS178	DIODE					
IC1			UPC1237HA	IC(POWER AMP)					
Q1 -4			2SC1845(F,E)	TRANSISTOR					
Q5 -8			2SC2320(E,F)	TRANSISTOR					
Q5 -8			2SC945(A)(Q,P)	TRANSISTOR					
Q9 -12			2SC1845(F,E)	TRANSISTOR					
Q13 -18			2SA992(F,E)	TRANSISTOR					
Q19 ,20			2SC1845(F,E)	TRANSISTOR					
Q21 ,22			2SC3944(Q,R)	TRANSISTOR					
Q23 ,24			2SA1535(Q,R)	TRANSISTOR					
Q25 ,26			2SC2631(R,S)	TRANSISTOR					
Q27 ,28			2SA1123(R,S)	TRANSISTOR					

E: Scandinavia & Europe

K: USA

P: Canada

U: PX(Far East, Hawaii)

T: England

M: Other Areas

UE: AAFES(Europe)

X: Australia

 indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnes dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部 品 番 号	Description 部品名／規格	Desti- nation 仕 向	Re- marks 備考
Q29			2SA992(F,E)	TRANSISTOR		

E: Scandinavia & Europe K: USA P: Canada

U: PX(Far East, Hawaii) T: England M: Other Areas

UE : AAFES(Europe) X: Australia

▲ indicates safety critical components.

KA-770D

SPECIFICATIONS

Power Output

80 watts per channel minimum RMS, both channels driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.055% total harmonic distortion

Maximum Continuous Power Out-

put (DIN) 1 kHz at 4 ohms 120 W

Maximum Continuous Power Output (IEC/NF) from 63 Hz to 12,500 Hz 0.7%

Total Harmonic Distortion at

8 ohms 93 W + 93 W

Dynamic Power 190 W per channel
at 4 ohms

Total Harmonic Distortion

AUX input to SPEAKER output

(20 Hz-20,000 Hz) : 0.055% at 80 W into 8 ohms

Intermodulation Distortion

(60 Hz:7 kHz = 4:1)

: 0.055% at 80 W into 8 ohms

Damping Factor

Power Bandwidth

: 500 (50 Hz into 8 ohms)

: 10 Hz to 45 kHz at 0.09%

T.H.D. into 8 ohms

Frequency Response

: 5 Hz to 60 kHz/+0 dB,

-3 dB

Input Sensitivity/Impedance

PHONO (MM) : 2.5 mV/47 kohms

PHONO (MC) : 0.2 mV/100 ohms

TUNER/AUX/TAPE : 150 mV/47 kohms

Signal to Noise Ratio (IHF-A)

PHONO (MM) : 86 dB (2.5 mV)

PHONO (MC) : 66 dB (0.2 mV)

TUNER/AUX/TAPE : 108 dB (150 mV)

Signal to Noise Ratio

Unweighted: 50 mW (DIN)

PHONO (MM) : 57 dB

TAPE/AUX/TUNER : 58 dB

Phono Maximum Input Level

(MM) : 200 mV, (RMS) T.H.D.

0.055% at 1 kHz

(MC) : 15 mV, (RMS) T.H.D.

0.055% at 1 kHz

Output Level/Impedance

TAPE REC

Phono Frequency Response

: 150 mV/220 ohms

: RIAA standard curve
±0.3 dB (20 Hz to 20 kHz)

Tone Control

BASS (at 100 Hz) : ±10 dB

TREBLE (at 10 kHz) : ±10 dB

Loudness Control (at

-30 dB Volume Level) : 9 dB at 100 Hz

Subsonic Filter (at -3 dB)

: 6 dB/Oct. at 18 Hz

GENERAL

Power Consumption : 4.2 A (U.S.A. and Canada Model)

260 W (Other Countries)

Dimensions : W 440 mm (17-5/16")
H 143 mm (5-5/8")

D 343 mm (13-1/2")

Weight (Net) : 9.2 kg (20.24 lb)

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the PX (U) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION

2201 East Dominguez Street, Long Beach, CA 90810,
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.

P.O. Box 1075 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

KENWOOD ELECTRONICS BENELUX N.V.

Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrucker-Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.

Hi-Fi·VIDEO·CAR Hi-Fi

13, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD U.K. LTD.

17 Bristol Road, The Metropolitan Centre, Greenford, Middx. UB6 8UP England

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.

Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong